

**REMARKS**

Claims 1-26 remain in the application. No claims have been amended in the present Response.

Claims 1-6, 10, and 20-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,482,978 to Takehashi et al. (the '978 patent) in view of U.S. Patent No. 4,742,142 to Shimizu et al. (the '142 patent). Further, claims 7-9, 13-19, and 25-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the '978 patent in view of the '142 patent and further in view of U.S. Patent No. 6,299,952 to Honma et al. (the '952 patent). The Applicants respectfully traverse these rejections on the basis that the Examiner has failed to establish a *prima facie* case of obviousness with regard to independent claim 1.

To summarize, claim 1 encompasses an electrically conductive silicone rubber composition. The electrically conductive silicone rubber composition comprises (A) 100 parts by weight of an organopolysiloxane having at least two alkenyl groups per molecule, (B) an amount sufficient to cure composition, of an organopolysiloxane having at least two silicon-bonded hydrogen atoms per molecule, (C) an amount sufficient to promote cure of the composition, of a platinum based catalyst, (D) 50 to 5,000 parts by weight of a metal based electrically conductive filler, and (E) 5 to 500 parts by weight of spherical silicone rubber particles with a surface active agent content of not more than 0.3 wt% (emphasis added).

As the Examiner is well aware, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (MPEP § 2143). In addition, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970).

The Applicants assert that the Examiner has inappropriately combined the ‘978 and ‘142 patents. Further, even when combined, the ‘978 and ‘142 patents fail to teach or suggest all of the limitations of the present invention as are claimed in claim 1.

In the instant Office Action, the Examiner appropriately recognizes that the ‘978 patent does not disclose or teach the claimed amounts of components (D) and (E) of the present invention. The Examiner then relies, in error, on the ‘142 patent to suggest component (D) of the present invention. The ‘142 patent discloses a platinum based catalyst (Column 2, Lines 1-5), which the Examiner is equating to a metal based electrically conductive filler. However, as is readily appreciated by those skilled in the art, catalysts are not equivalent to fillers, and are therefore are not appropriately substituted for one another. Those skilled in the art also recognize that fillers are traditionally cheap and therefore cost effective to use in a wide range of amounts to impart compositions with various physical properties. Conversely, catalysts are traditionally expensive relative to fillers, and are therefore used in minimal amounts simply catalyze chemical reactions. Accordingly, the ‘142 patent teaches use of the platinum based catalyst in terms of parts per million (ppm)

based on the total combined weight of components (A) and (B), and further describes **reduced economy** when using more than 1,000 ppm of the platinum based catalyst, wherein a concentration from 1 to 100 ppm is preferred. (Column 3, Lines 45-52). In other words, the '142 patent does not teach or disclose using the platinum based catalyst as a metal based electrically conductive filler, and even if it did, the '142 patent does not disclose, **but instead teaches away** from the claimed amounts of component (D) of the present invention because of the cost of the platinum based catalyst. In view of the foregoing, the Applicants respectfully submit that the '978 and '142 patents are not appropriately combinable and that claim 1 is therefore both novel and non-obvious.

Furthermore, even if for argument's sake, one assumes the '978 and '142 patent are combined, the third criteria of a *prima facie* case of obviousness is still not established. More specifically, there is no teaching or suggestion in the '978 patent or the '142 patent, either independently or when combined, of the claimed parts by weight of components (D) and (E) of the present invention.

As specifically set forth in paragraph [0013] of the instant specification, component (D) of the present invention, the metal based electrically conductive filler, is used to impart electrical conductivity to a silicone rubber produced by curing the electrically conductive silicone rubber composition of claim 1. Further, as claimed in claim 1 and specifically set forth in paragraph [0014] of the instant specification, the content of component (D) is in the range of 50 to 5,000 parts by weight per 100 parts by weight component (A). When the content of component (D) is below the lower end of the range, i.e., 50 parts by weight, the

electroconductivity of the silicone rubber tends to be insufficient. When the content of component (D) exceeds the upper end of the range, i.e., 5,000 parts by weight, processability of the electrically conductive silicone rubber composition tends to deteriorate.

The Applicant's calculations indicate that 1,000 ppm is equal to 0.1 part of the platinum based catalyst per 100 parts combined of components (A) and (B) of the '142 patent. As is claimed in claim 1, and as described above, the present invention at a minimum includes 50 parts by weight of component (D) relative to a minimum of 100 parts by weight of component (A). These calculations indicate that component (D) of the present invention, at a minimum, is used in an amount at least 500 times the maximum amount of the platinum based catalyst used in the '142 patent. To confirm our calculations, the Applicants examined the two examples of the example section of the '142 patent. By assuming an *extreme* scenario of just components (A) and (B), i.e., the two organopolysiloxanes, and the platinum based catalyst being present, and the platinum catalyst being 100 wt% platinum, the Applicants calculated approximately 0.15 parts by weight of the platinum based catalyst relative to 100 parts by weight of components (A) and (B) combined, for both examples. In sum, the Applicant's calculations indicate that the '142 patent uses the platinum based catalyst in an amount well below the minimum amount of component (D) claimed in claim 1 and used in the present invention. In view of the foregoing, the Applicants respectfully submit that claim 1 is both novel and non-obvious.

Further, in the instant Office Action, the Examiner also indicates that the '142 patent suggests component (E) of the present invention. The '142 patent teaches a method of

preparing a cured silicone rubber powder in the form of micro-fine particles, which may be spherical in shape. (Column 5, Lines 43-60). However, the method of the '142 patent is merely for preparation of a cured silicone rubber powder, which the Examiner is equating to component (E) of the present invention, and the '142 patent does not teach or suggest the further use of the cured silicone rubber powder in an electrically conductive silicone rubber composition, as is claimed in claim 1 of the present invention. A surface active agent, i.e., a surfactant, is disclosed by the '142 patent for preparing the silicone rubber powder. (Column 5, Line 47). However, there is no recognition with respect to the silicone rubber powder having not more than 0.3 wt% of a surface active agent, as is claimed in claim 1 and recognized by the present invention.

As specifically set forth in paragraph [0015] of the instant specification, component (E) of the present invention, spherical silicone rubber particles, is used to form the silicone rubber with low permanent compression set. In addition, the electrically conductive silicone rubber composition exhibits little thickening due to the addition of component (E). Yet further, as is claimed in claim 1 and as described above, component (E) contains not more than 0.3 wt% of surface active agent. As set forth in paragraph [0030], wt% of surface active agent affects viscosity of the electrically conductive silicone rubber composition, i.e., thickening as described above. As is claimed in claim 1 and set forth in paragraph [0017] of the instant specification, the content of component (E) is in the range of 5 to 500 parts by weight. When the content of component (E) is below the lower end of the range, i.e., 5 parts by weight, forming the silicone rubber with low hardness and low permanent compression set

is difficult, i.e., component (E) must be present in an amount of at least 5 parts by weight to impart the silicone rubber with low hardness and low permanent compression set. When the content of component (E) exceeds the upper end of the range, i.e., 500 parts by weight, it is difficult to prepare a homogeneous electrically conductive silicone rubber composition.

Notably, as alluded to above, and as specifically set forth in paragraph [0016] of the instant specification, the method of the '142 patent is merely but one method for preparing component (E) of the present invention. If the '142 method is used for preparing component (E) of the present invention, the platinum based catalyst used in the '142 patent would be intrinsic in component (E), thereby further reducing the overall amount of the metal based electrically conductive filler present in the electrically conductive silicone rubber composition of the present invention, if the platinum based catalyst of the '142 patent is equated to the metal based electrically conductive filler of the present invention, as inferred by the Examiner. In sum, the '142 patent teaches one possible method of making component (E) of the present invention, and does not teach or suggest using component (E) in an electrically conductive silicone rubber composition in an amount of 5 to 500 parts by weight as is claimed in claim 1 of the present invention. In addition, as is also claimed in claim 1, the '142 patent does not recognize wt% of the surface active agent whatsoever.

In view of the foregoing, the Applicants respectfully submit that claim 1 is both novel and non-obvious, in view of the disclosure, teachings, and suggestions of the prior art such that claim 1, as well as the claims that depend therefrom, are in condition for allowance. If any

additional fees are necessary to respond to this Office Action, you are hereby authorized to charge such fees to Deposit Account No. 08-2789 in the name of Howard & Howard.

**Respectfully submitted,**

**HOWARD & HOWARD ATTORNEYS**

April 27, 2007

Date

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